

COLORADO RIVER RECOVERY PROGRAM  
FY 2014 ANNUAL PROJECT REPORT

RECOVERY PROGRAM  
PROJECT NUMBER: C-29a

I. Project Title: **Retrieval of fish from the Grand Valley Irrigation Company and Grand Valley Water Users canals**

II. Bureau of Reclamation Agreement Number(s): R13PG40018

Project/Grant Period: Start date: 10/1/2006  
End date: insert end date: 9/30/2017  
Reporting period start/end date: 10/1/2013 to 9/30/2014  
Is this the final report? Yes  X  No

III. Principal Investigator(s):

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IV. Abstract:

A fish screen was constructed on the Grand Valley Irrigation Company (GVIC) irrigation canal in winter 2001 – 2002 becoming fully operational a few years later. A fish screen was completed in the summer of 2005 for the Grand Valley Water Users (GVWU) Canal becoming fully operational during the spring of 2010. However, during events when debris overloads the screens (3/32-inch spacing) and water cannot pass through them to provide sufficient amounts of water down the canal to irrigation users and for power generation, the irrigation companies have the option of lifting the screens and diverting water through the bypass channel allowing fish to first enter, then later become stranded in the canals when they become dewatered during the fall. While the fish screens are intended to bypass larger juvenile and adult fish back to the river, larval fish entrained into the canals from the river can freely pass through the 3/32-inch wedge wire spacing and become entrained. After the April to October 2013 water season, 9,737 fish were salvaged from the canals and returned to the river in November 2013 (i.e., early during FY 2014).

V. Study Schedule:

A. initial year: 2002  
B. final year: Ongoing

VI. Relationship to RIPRAP: Colorado River Action Plan: Colorado River; II.B.1.b.  
Screen GVIC diversion canal to prevent endangered fish entrainment; II.B.3.b.  
Screen Government Highline diversion canal to prevent endangered fish entrainment

VII. Accomplishment of FY 2014 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

A. FY-2014 Tasks and Deliverables:

Task 1. Sample GVIC and GVWU canals; remove native fish and re-locate to the Colorado River.

Task completed.

B. Findings (November 2013 Highlights)

Fish salvage is conducted by driving major portions of the canals looking for pools of water that contain fish after the irrigation water is turned off for the year. Irrigation water diverted from the Colorado River during the spring and summer months for irrigation and power generation are halted usually in the first week of November. The pools are sampled with truck-mounted electrofishing units or seines. All native fish collected are identified to species, enumerated, loaded into a hatchery truck, transported to the Colorado River, and released alive after being appropriately tempered. Nonnative fish encountered are left in the canal. Sampling ceases usually immediately prior to Thanksgiving, once ice becomes too thick in the remaining pools to effectively collect fish.

Grand Valley Irrigation Company (GVIC) canal

The canal was sampled from the diversion dam head works in the Colorado River downstream to 22 Road in November of 2013. Sampling was limited to areas where the roads were dry enough to avoid damaging the road surface by our heavy vehicles. Crews traveled the canal road and sampled every pool encountered that could hold fish.

A total of 2,327 fish were collected. The catch consisted of 1,669 roundtail chub, 467 flannelmouth sucker, 153 speckled dace, 34 bluehead sucker, 3 endangered bonytail, and 1 endangered razorback sucker. The razorback sucker had a total length of 353 mm and was captured in the canal near Palisade, CO. This fish was stocked in the Colorado River on 9/12/2013 and had not been previously captured in the river. All three of the bonytail had been stocked in DeBeque Canyon on 8/13/2013. These fish had total lengths ranging from 260-292 mm. None of them had been previously captured in the river.

A running total of all native fishes collected in this canal from 2002-2013 is provided in the Appendix in Table 1. However, effort varied considerably among these ten years and, therefore, direct comparison of individual fish species collected and the total number collected among years is not advisable.

## Grand Valley Water User's (GVWU; aka "Highline") canal

The GVWU Canal was sampled from the point at which the canal enters the Grand Valley east of Palisade downstream to about 21 Road in November 2013. As with the GVIC canal, sampling crews traveled the canal roads, when the roads were dry enough to permit safe travel, searching for pools of water that might hold fish.

A total of 7,410 fish were collected. The catch consisted of 3,230 roundtail chub, 566 speckled dace, 337 flannelmouth sucker, 37 bluehead sucker, 8 endangered bonytail, and 2 endangered razorback sucker. An additional large group of young of the year fish (estimated to be 3,230 fish) which were composed of a mixture of roundtail chub, flannelmouth sucker, and speckled dace were also collected. These fish were not counted to species, because of the extremely large number of fish being handled at that particular collection site. The determination was made that slowing down to count all of these fish to species would cause undue stress to these fish, possibly resulting in death. Thus just total numbers of fish were counted while the nonnative fish were being removed from the sample.

The razorback suckers that were captured had both been stocked in Rifle, CO on 10 and 11 September 2013. Neither razorback had been previously caught in the river. All of the bonytail rescued from the canal had been stocked in DeBeque Canyon on the Colorado River on 13 August 2013. Their total lengths ranged from 230-415 mm and none of these fish had been previously captured in the river. Similar to previous years, a majority of the fish (6,042; 82%) were caught in a long pool section of the canal near 35 3/10 Road in Palisade, CO.

A running total of all native fishes collected in this canal from 2002-2013 is provided in the Appendix in Table 2. However, effort varied considerably among these ten years and, therefore, direct comparison of individual fish species collected and the total number collected among years is not advisable.

### VIII. Recommendations:

- A. Continue operating the fish screens.
- B. Continue late-fall salvage operations to re-locate native fish that either are entrained into the canal system when the screens are not operational or pass between the 3/32-inch wedge wire screen spacing (e.g., larval fish).

### IX. Project Status: "On track and ongoing"

X. FY 2014 Budget Status

- A. Funds Provided:
- B. Funds Expended:
- C. Difference:
- D. Percent of the FY 2014 work completed, and projected costs to complete: 100%
- E. Recovery Program funds spent for publication charges: -0-

XI. Status of Data Submission (Where applicable): Will be submitted to UCRRP database by January 2015.

XII. Signed: Brendan Crowley                      11/14/2014  
Principal Investigator                      Date

APPENDIX: Tables

**Table 1.** Total numbers of native fish collected by species and by year from 2002-2013 in the Grand Valley Irrigation Company (GVIC) canal.

YEAR	FM	BH	FM X BH	RT	SD	MF	MS	RZ	BT	CS	TOTALS
2013	467	34	0	1,669	153	0	0	1	3	0	2,327
2012	2,386	451	0	2,453	450	0	0	2	2	0	5,744
2011	428	17	1	258	6	1	0	2	0	0	713
2010	571	4	0	478	80	0	0	0	0	0	1,061
2009	877	48	0	79	232	4	0	0	0	0	1,240
2008	892	59	0	150	0	0	0	1	0	0	1,102
2007	128	3	0	35	0	0	0	0	0	0	166
2006	2,252	123	0	1,322	0	0	0	1	0	0	3,698
2005	897	80	0	730	0	0	0	0	0	0	1,707
2004	1,783	22	0	588	26	0	0	0	0	0	2,419
2003	-	-	-	-	-	-	-	-	-	-	2,908
2002	-	-	-	-	-	-	-	-	-	-	3,371

Fish Species: FM-flannelmouth sucker, BH-bluehead sucker, RT-roundtail chub, SD-speckled dace, MF=mountain whitefish, MS-mottled sculpin, RZ-razorback sucker, CS-Colorado pikeminnow, BT- bonytail chub

**Table 2.** Total numbers of native fish collected by species and by year from 2002-2013 in the Grand Valley Water Users (GVWU) canal

YEAR	FM	BH	FM X BH	RT	SD	MF	MS	RZ	CS	BT	TOTALS
2013	337	37	0	3,230	566	0	0	2	0	8	7,410*
2012	1,574	632	0	5,924	3,942	0	0	1	0	2	12,075
2011	808	77	1	16,813	328	3	19	3	0	0	18,052
2010	1,517	88	0	23,299	1,043	30	0	0	0	0	25,977
2009	6,255	797	0	26,527	5,135	7	1	0	0	0	38,722
2008	738	77	0	754	23	6	0	0	0	0	1,598
2007	433	93	0	6,543	70	0	0	1	0	0	7,140
2006	-	-	-	-	-	-	-	-	-	-	-
2005	722	173	0	3,815	48	0	0	0	1	0	4,759
2004	893	118	0	5,166	140	0	1	0	24	0	6,343
2003	-	-	-	-	-	-	-	-	-	-	~ 3,000
2002	-	-	-	-	-	-	-	-	-	-	~ 1,100

\*In 2013, a combination of ~3,230 young of the year flannemouth sucker, roundtail chub, and speckled dace were added to the total number of fish caught that year

Fish Species: FM-flannemouth sucker, BH-bluehead sucker, RT-roundtail chub, SD-speckled dace, MF=mountain whitefish, MS-mottled sculpin, RZ-razorback sucker, CS-Colorado pikeminnow, BT- bonytail chub